Peterborough Diocese Education Trust

ACHIEVING MORE TOGETHER

Teaching and Learning Statement

The importance of strong teacher knowledge cannot be under-estimated. This can be broken down into three areas:

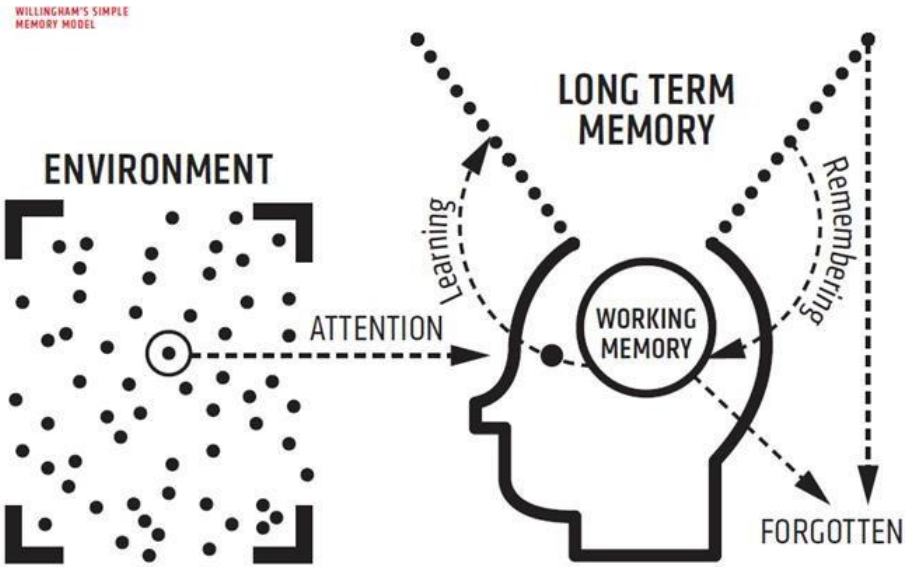
1. Pedagogical knowledge: teacher knowledge of effective teaching methods;
2. Content knowledge: teacher subject knowledge;
3. Pedagogical content knowledge: teacher knowledge of how to teach the particular subject / topic e.g. knowing the misconceptions that arise prior to teaching specific key knowledge.

This Teaching and Learning Statement focuses on pedagogical knowledge. It outlines the principles that we believe underpin effective teaching (pedagogical knowledge) in our Trust and how these contribute to learning.

This Teaching and Learning Statement is underpinned by a joint, common understanding of the key terminology. This enables teachers and leaders in our Trust to work collaboratively to develop trust-wide effective teaching in order to deliver the intended curriculum and hence, strive to ensure optimum learning occurs. Key terminology is outlined below:

Learning: 'is an alteration in long-term memory. If nothing has been altered in long-term memory then nothing has been learned.' **(**Sweller et al. 2011)

Effective teaching needs to be based on a sound model of learning:



Designed by Oliver Caviglioli

Understanding: Well-developed schema; well organised, connected knowledge as opposed to a handful of unconnected facts.

Curriculum: The knowledge students are expected to learn (including spiritual, moral, social and cultural) through the totality of experiences provided in our children's primary schooling.

Declarative knowledge: 'to know that…..'; concepts, rules and facts 'waiting to be of service'. Declarative knowledge has a vital place in enabling all further thought and all learning.

Procedural knowledge: 'to know how…..'; goal directed; produces actions; enables us to do things. Procedural knowledge enables us to use declarative knowledge. Skills are regarded as procedural knowledge, totally dependent on specific declarative knowledge. Skills can't exist as free floating and context free.

Progress: The curriculum is the progression model. Therefore, 'if a student has learnt the curriculum, they have made progress.' (Michael Fordham)

High Quality Teaching:

In our Trust pedagogical knowledge should be underpinned by Rosenshine's 'Principles of Instruction'. These principles are grouped into four strands:

(i) Sequencing Concepts and Modelling:
   a. Present new material using small steps.
   b. Provide models
   c. Provide scaffolds for difficult tasks.

(ii) Questioning:
   a. Ask questions
   b. Check for understanding

(iii) Stages of Practice:
   a. Guide learner practice
   b. Obtain a high success rate
   c. Provide independent practice

(iv) Reviewing Material:
   a. Daily Review
   b. Weekly and monthly review

(Tom Sherrington; 2019)

High quality teaching in the Trust should therefore incorporate the following:

Sequencing Concepts and Modelling:

a. Presenting new material using small steps: In order to address the limitations in working memory, concepts and knowledge need to be broken down into small

steps. These steps can be represented by ‘success steps’. Such ‘success steps’ should shape explanations and learning should be continually referenced against these.

b. Providing models: Central to good explanations, models can be (i) physical representations of completed tasks e.g. exemplars (ii) conceptual models (iii) explicit narration of thinking. Modelling helps learners to organise information into well-structured schemata.

c. Providing scaffolds for difficult tasks e.g. writing frames: Scaffolds support the thought process. However, these should be temporary so that learners don’t become over-reliant on them.

The anticipation of errors and misconceptions throughout modelling is key.

Questioning:

a. Asking questions: A large number of questions need to be asked and such questions need to involve many learners to probe thinking, explain, clarify and check for understanding. Effective questioning strategies should include:
   (i) No hands up - cold calling;
   (ii) No ‘opt out’ - giving learners opportunities for consolidating or correcting their answers; non-acceptance of ‘I don’t know’;
   (iii) Say it again, better - give learners opportunities to reformulate answers;
   (iv) Think, pair, share;
   (v) Whole class response - the use of individual whiteboards can’t be underestimated;
   (vi) Probing – exploring learners’ schemata.

b. Check for understanding: The use of the question, ‘What have you understood?’ is far more effective than ‘Have you understood?’. (See also Responsive Teaching section.)

Stages of Practice:

a. Guiding learner practice: This involves teachers asking questions, checking understanding, using models, worked examples and scaffolds. Strong schema need to be formed early so the possibility of forming misconceptions is minimised.

b. Obtaining a high success rate: As a guide, if learners are getting less than 80% correct they may be reinforcing errors. If the success rate is too low, individual / groups of learners may need re-explanations, re-modelling and re-teaching. If the individual success rate is above 80% challenge needs to be re-assessed, including adding levels of depth to the tasks and removing scaffolds and supports.

c. Providing independent practice: Following guided practice there needs to be enough opportunity provided for independent practice. Judging when this transition takes place, is vital. Enough independent practice should result in learner fluency.

Such strategies as rote learning, drilling and repetition are regarded as ways of providing practice, and hence, they become part of a sensible learning process, if used appropriately.

Reviewing Material:

In line with cognitive load theory we aim to increase understanding by building well-developed schemata: well organised, connected knowledge as opposed to a handful of unconnected facts. We, therefore, favour spaced and distributed learning, where knowledge is rehearsed for short periods over a longer period of time. Retrieval practice needs to be built in to strengthen memory by:

- Providing overviews
- Outlining content to be covered and signalling transitions between different parts of the lesson;
- Calling attention to main ideas;
- Providing daily, weekly and monthly reviews.
- Re-teaching when necessary.

a. Daily Review: This supports the development of fluency by allowing learners to re-activate recently acquired knowledge. This allows prior learning to be active in our working memory in order to make further connections.
b. Weekly and Monthly Review: These ensure that learned material is not forgotten and more extensive schemata are developed. Strategies involve simple recall tests, quizzes, multiple choice tests, 'telling the story', rehearsing explanations, creating knowledge maps, summarising, demonstrating – all without prompts.

Highly Responsive Teaching

All planning should be learning not task orientated. Longer term learning goals and subsequent short-term learning objectives must drive teaching at all times. Clarity regarding learning is vital; learning objectives must be shared with learners.

Learning should be grounded in responsive teaching. Teaching and planning needs to be adapted in response to learner feedback. Therefore all teachers need to be skilled in:

- Identifying how well learners are doing (effective use of feedback and formative assessment);
- Adjusting teaching in order to achieve the longer term learning goals.

Good teacher-learner relationships are imperative. Without these, learners will not effectively engage with teacher feedback.

See **Appendix 1:** Oliver Caviglioli's representation of Tom Sherrington's Rosenshine's Principles in Action (2019)

Barak Rosenshine's

PRINCIPLES OF INSTRUCTION

A thematic interpretation for teachers by **Tom Sherrington**

@teacherhead

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REVIEWING MATERIAL

1 Daily review

10 Weekly and monthly review

Daily review is important in helping to resurface prior learning from the last lesson. Let's not be surprised that students don't immediately remember everything. They won't! It's a powerful technique for building fluency and confidence and it's especially important if we're about to introduce new learning — to activate relevant prior learning in working memory.

QUESTIONING

3 Ask questions

6 Check for student understanding

The main message I always stress is summarised in the mantra: ask more questions to more students in more depth. Rosenshine gives lots of great examples of the types of questions teachers can ask. He also reinforces the importance of process questions. We need ask how students worked things out, not just get answers. He is also really good on stressing that asking questions is about getting feedback to us as teachers about how well we've taught the material and about the need to check understanding to ensure misconceptions are flushed out and tackled.

SEQUENCING CONCEPTS & MODELLING

2 Present new material using small steps

4 Provide models

8 Provide scaffolds for difficult tasks

Small steps — with practice at each stage. We need to break down our concepts and procedures (like multi-stage maths problems or writing) into small steps so that each can be practised.

Models — including the importance of the worked-example effect to reduce cognitive load. We need to give many worked examples; too often teachers give too few.

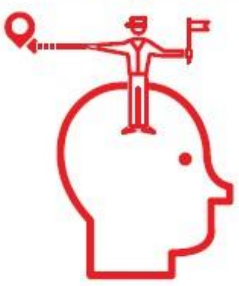
Scaffolding is needed to develop expertise — a form of mastery coaching, where cognitive supports are given — such as how to structure extended writing — but they are gradually withdrawn. The sequencing is key. Stabilisers on a bike are really powerful aids to the learning and confidence building — but eventually they need to come off.

STAGES OF PRACTICE

5 Guide student practice

7 Obtain a high success rate

9 Independent practice



Teachers need to be up close to students' initial attempts, making sure that they are building confidence and not making too many errors. This is a common weakness with 'less effective teachers'. Guided practice requires close supervision and feedback.
High success rate — in questioning and practice — is important. Rosenshine suggests the optimum is 80%. i.e. high! Not 95-100% (too easy). He even suggests 70% is too low.

Independent, monitored practice. Successful teachers make time for students to do the things they've been taught, by themselves... when they're ready. *"Students need extensive, successful, independent practice in order for skills and knowledge to become automatic"*